

REMARKS

Claims 1-4, 7-15, 17-20, 22, 24, 26, 28 and 29 are pending in the application. By this amendment, the specification has been amended.

Personal Interview

Applicant acknowledges and thanks the Examiner for the courtesy shown during the Personal Interview of May 7, 2003 in which the Examiner's 35 U.S.C. § 101 rejections were discussed.

Amendment to the Specification

The Examiner objected to the previous amendment under 35 U.S.C. § 132 as introducing new matter into the disclosure. Applicant has amended the specification to cancel the new matter in conformance with the Examiner's requirement. Applicant respectfully requests the Examiner withdraw said objection.

Objection to the Specification

The specification has been objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description of the invention, and as failing to adequately teach how to make and/or use the invention, i.e., failing to provide an enabling disclosure. Applicant respectfully traverses said objection.

The Examiner asserts that the claimed invention is an apparatus for commercial production of electricity by nuclear fusion. A description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the Examiner to rebut the

presumption. M.P.E.P. 2163.04. The Examiner has the initial burden of presenting by a preponderance of the evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention **defined by the claims**. M.P.E.P. 2163.04. All questions of enablement are evaluated against the **claimed** subject matter. M.P.E.P. 2164.08. Applicant respectfully suggests that a review of the pending claims make no reference to commercial production of electricity by nuclear fusion and, in fact, are directed solely to nuclear fusion reactor systems. As such, the Examiner's objections based upon traits associated with commercial production of electricity have no relevance to the **pending claims**.

An analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information so as to enable one skilled in the pertinent art to make and use the claimed invention. M.P.E.P. 2164.01, citing In Re Wands, 858 F.2d 731, 737, (Fed. Cir. 1988). It has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. M.P.E.P. 2164.01, citing In Re Wands at 737. The fact that experimentation may be complex does not necessarily make it undue, if the art typically engaged in such experimentation. M.P.E.P. 2164.01, citing In re Certain Limited-Charge Cell Culture Microcarriers, 221 U.S.P.Q. 1165, 1174 (Int. Trade. Comm'n 1983). Not everything necessary to practice the invention need be disclosed. In fact, what is well-known is best omitted. M.P.E.P. 2164.08, citing In re Buchner, 929 F.2d 660, 661 (Fed. Cir. 1991). The scope of enablement must only bear a reasonable correlation to the scope of the claims. M.P.E.P. 2164.08, citing In re Fisher, 427 F.2d 833, 839 (C.C.P.A. 1970).

The Applicant respectfully suggests that even though complex experimentation may be required to make and use the present invention, this experimentation is typical of the amount and type of experimentation typically required for fusion devices. As previously acknowledged by the Examiner, the prior art fusion devices referenced within the application have taken years and enormous resources to achieve their present state of development. Applicant respectfully suggests that the application as filed would enable one skilled in the art of nuclear fusion to pursue the present invention, albeit with complex; but not undue, experimentation typical of the amount and type of experimentation performed with respect to the art of nuclear fusion.

Claim Rejections -- 35 U.S.C. § 101

Claims 1-4, 7-15, 17-20, 22, 24, 26, 28, and 29 stand rejected under 35 U.S.C. § 101. Applicant respectfully traverses said rejection.

Deficiencies under 35 U.S.C. § 101 arise in one of two forms. The first is where it is not apparent why the invention is useful. The second type of deficiency arises in the rare instance where an assertion of specific and substantial utility for the invention made by an applicant is not credible. M.P.E.P. 2107.01 Clearly, the Examiner is not asserting that a fusion reactor is not useful. As such, the Applicant is interpreting this argument as an assertion of the second type of deficiency, that the specific and substantial utility of the claimed invention is not credible.

The Federal Circuit has stated, "...to violate 35 U.S.C. § 101 the claimed device must be totally incapable of achieving a useful result." M.P.E.P. 2107.01; quoting Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1571(Fed. Cir. 1992). The defense of non-utility cannot be sustained without proof of total incapacity. If an invention is only partially successful in

achieving a useful result, a rejection of the claimed invention as a whole based on a lack of utility is not appropriate. M.P.E.P. 2107.01; quoting In re Brana, 51 F.3d 1560 (Fed. Cir. 1995). Situations where an invention is found to be “inoperative” and therefore lacking in utility are rare, and rejections maintained solely on this ground by a Federal Court even more rare. M.P.E.P. 2107.01. In view of the rare nature of such cases, Office personnel should not label an asserted utility “incredible,” “speculative” or otherwise unless it is clear that a rejection based on “lack of utility” is proper. M.P.E.P. 2107.01.

In the present application, Applicant’s claims are directed to fusion reactor systems utilizing spherical electromagnetic confinement fields. The Examiner has failed to provide any proof of total incapacity with respect to the claimed invention. Not only has the Examiner failed to provide the requisite proof, the Examiner even suggests the invention of the present application is, in fact, anticipated by certain granted United States patents. As the Examiner has failed to satisfy his burden, Applicant respectfully requests said rejection be withdrawn.

Claim Rejections -- 35 U.S.C. § 112

Claims 1-4, 7-15, 17-20, 22, 24, 26, 28, and 29 stand rejected under 35 U.S.C. § 112, first paragraph. Applicant respectfully traverses said rejections.

In rejecting a claim, the Examiner must set forth express findings of fact which support the lack of written description conclusion. These findings should:

- (A) Identify the **claim** limitation at issue; and
- (B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in

possession of the invention **as claimed** in view of the disclosure of the application as filed.

M.P.E.P. 2163.04.

As discussed in Section 2 above, the pending claims are directed to a nuclear fusion reactor system as opposed to Examiner's suggestion that the claimed invention is an apparatus for commercial production of electricity by nuclear fusion. As such, the Examiner has failed to set forth express findings of fact supporting the Examiner's lack of written description conclusion with respect to the actual pending claims. As the Examiner has failed to satisfy his burden, Applicant respectfully requests said rejection be withdrawn.

Claim Rejections -- 35 U.S.C. § 102

Claims 1-3, 20, 24 and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by any one of Priest (U.S. Patent No. 4,354,999) or Lasche (U.S. Patent No. 4,735,762) or Hendry (U.S. Patent No. 5,139,731). Applicant respectfully traverses said rejections.

Applicant respectfully suggests that Priest fails to disclose a plurality of conducting spheres arranged adjacent to each other with at least two of said conducting spheres adjacent to the reactor core. The Examiner references lithium jacket 24 and spherical shell 12 as being a plurality of conducting spheres. Applicant respectfully submits that lithium jacket 24 and spherical shell 12 are merely layers of a single sphere. Even if both lithium jacket 24 and spherical shell 12 were conducting spheres, they are not both located adjacent the reactor core (See Fig. 8). Applicant respectfully requests said rejection be withdrawn.

With respect to Lasche, Applicant respectfully suggests that Lasche fails to disclose a plurality of conducting spheres adjacent each other with at least two conducting spheres adjacent the

reactor core. The Examiner references spherical blanket 32 (22?) and “spherical mold of two hemispheres for forming the target” and states that this anticipates the plurality of conducting spheres. As described in Column 6, Lines 54-60, it is made clear that the spherical blanket 22 is not adjacent the core, but actually encompasses the fusion target. Furthermore, the “spherical mold of two hemispheres for forming the target” is directed to capturing liquid lithium prior to being dropped into the chamber. Neither the spherical blanket nor spherical mold of two hemispheres disclose a plurality of conducting spheres with at least two conducting spheres adjacent the reactor core.

Applicant respectfully requests said rejection be withdrawn.

Applicant respectfully suggests that Hendry fails to disclose a reactor core containing fusionable material. As described at Column 1, Lines 25-28, Hendry defines a cyclotron as a particle accelerator in which charged particles are accelerated through a substantially spiral path which increases in radius through the range of acceleration. As defined in Merriam-Websters’s Collegiate Dictionary, 10th Edition, a cyclotron is: “an accelerator in which charged particles are propelled by an alternating electric field in a constant magnetic field.” Clearly, a cyclotron does not read upon a reactor core containing fusionable material. Furthermore, Hendry fails to disclose a plurality of conducting spheres with at least two conducting spheres adjacent the reactor core. The descriptions of ion source volume 14 and pumping volume 24 include no discussion of acting as conducting spheres, nor are they described as being adjacent a reactor core. Applicant respectfully requests said rejection be withdrawn.

Claim 7 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Hendry. Applicant respectfully traverses said rejection. Applicant respectfully suggests that as Hendry fails to anticipate

claim 1 as discussed above, Hendry fails to anticipate dependent claim 7. Applicant respectfully requests said rejection be withdrawn.

Claims 4, 14, 15, 17 and 29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lasche. Applicant respectfully traverses said rejections. As discussed above, Lasche fails to disclose anything with regard to a plurality of conducting spheres with at least two conducting spheres adjacent the reactor core. As such, Lasche fails to anticipate claims 4, 14, 15, 17 and 29. Applicant respectfully requests said rejection be withdrawn.

Claim Rejections -- 35 U.S.C. § 103

Claims 4, 14, 15, 17 and 29 stand rejected under 35 U.S.C. § 103(a) as being obvious over Priest in view of Whittlesey (U.S. Patent No. 3,378,446). Applicant respectfully traverses said rejection. As discussed previously, Priest fails to disclose a plurality of conducting spheres arranged adjacent to each other with at least two of said conducting spheres adjacent to the reactor core. Whittlesey also fails to disclose a plurality of conducting spheres arranged adjacent to each other with at least two of said conducting spheres adjacent to the reactor core. As such, the combination of Priest and Whittlesey fails to disclose the claimed invention. Applicant respectfully requests said rejection be withdrawn.

Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance.

Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Paul Haun
Registration No. 53,003

Customer No. 24113
Patterson, Thuente, Skaar & Christensen, P.A.
4800 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402-2100
Telephone: (612) 349-3009